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ILLUSTRATIONS OF MEXICAN MELANIANS.¹

BY H. A. PILSBRY.

The distribution of the Melanians and of land operculates in the Americas forms a most interesting chapter in zoogeography. As is well known, the family *Pleuroceridae* comprises all of the Melanians found living in North America above the Rio Grande; and moreover no members of this family or subfamily are known to exist outside of this area. South of the Texas boundary there are few melanians or none throughout northern Mexico; but as we approach the isthmus of Tehautepec the characteristic neotropical genera *Pachychilus* and *Hemisinus* appear, and are represented by a considerable number of species and innumerable local races. The richness of this fauna in varietal forms rivals the prolific streams of Tennessee and northern Alabama. Every spring and stream has its peculiar variations, often so distinct typically, that the naturalist is tempted into extravagance in naming them as species. The illustrations here with given represent some of the forms of *Pachychilus glaphyrus* from the State of Tabasco, sent to the Academy of Sciences by Professor ROVIROSA, a zealous and enlightened naturalist of that State.

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Pachychilus glaphyrus Morelet.

This species is an exceedingly variable one, more so perhaps than any other Mexican Melanian. The American student, however, will readily call to mind cases of equal variability among the species of our Southern States. The material sent by Prof. Roviroso comprises a number of varietal forms not before made known.

P. glaphyrus Rovirosai Pils. (Pl. I, figs. 9, 10.)

Shell large and heavy, elevated conical, the lateral outlines straight above, modified by the slight convexity of the whorls below. Spire more or less truncated at tip, half-grown specimens, (Pl. I, fig. 9,) possessing 8 remaining whorls; adults, (Pl. I, fig. 10,) having one or two whorls less.

Surface most minutely spirally striated the striæ visible only under a lens. Young and half-grown specimens are otherwise smooth, except for very slight spiral liræ toward the base. When a little more than half-grown, there appear coarse, oblique, curved wave-like folds on the body-whorl, extending to the periphery but not below it. Simultaneously with these undulations, begin spiral spaced liræ crossing them, which are slightly more prominent on the crests of the waves. This sculpture continues upon all subsequent volutions. The last volution of an adult specimen is slightly compressed below the suture, then quite convex. It has ten waves, and about nine spiral liræ, but the number of these last is quite variable on different specimens.

The color is olive in young, blackish in old examples: interior of the mouth white, maculated with brown at the position of the periphery and folds. This marking is also seen on the eroded spire in some specimens.

Aperture ovate, acute above, slightly exceeding one-third the total length of the shell. Columella white, regularly arcuate, spreading in a brown-tinted callus.

Dimensions. An adult specimen measures: Alt. 78, diam. 28 mm. Aperture, alt. 25, width 18 mm. A younger specimen measures: Alt. 56, diam. 20 mm. Aperture, alt. 20, diam. 12½ mm.

Collected from a spring which gushes from the western brow of the little ridge of the Limon, State of Tabasco, Mexico.

This form is allied to *P. glaphyrus* typical, and to the var. *scam-nata*, but it is distinct from both. The form is notable for its stout, straight-sided spire, non-impressed sutures, and the unsculptured young.

P. glaphyrus var. between *polygonatus* and *immanis*. (Pl. III, figs. 5, 6.)

The two specimens figured are of the same size but differ in sculpture. One (fig. 6) is smooth above and below, having a strong subspinous keel at the periphery, and a smooth, acute keel below it. Upon the earlier whorls of the spire there are longitudinal waves, and two spiral cords above the peripheral keel, which diminishes in size. The base has no spirals. The other specimen has the entire body-whorl spirally lirate (liræ on body-whorl 9, on penultimate whorl 3) and strongly plicate.

P. glaphyrus potamarchus. (Pl. III, fig. 7.)

This is one of the largest forms of *Pachychilus* known, and it is the most aberrant of the *glaphyrus* stock. The shell is rather slender and acutely conical, the outline of the spire being straight. The aperture is ovate, narrowed above, and one-third the length of the shell. Whorls 10-11 remaining, several of the earlier being lost by erosion. The microscopic sculpture is the same as in var. *Rovirosai*. There are no traces whatever of the waves or folds so prominently shown by the other varieties of *glaphyrus*, and the spiral cords are also completely obsolete, or indicated by the faintest traces on the base. The color is olive-green or olive-brown.

Alt. 99, diam. 33 mill.

Alt. 87, diam. 29 mill.

Tabasco, Mexico.

This variety differs from the *pyramidalis* of Morelet in being larger and smoother, lacking altogether the chestnut colored spirals of that form.

Potamanax subgen. nov.

Shell solid, oval with short conic spire, spirally sculptured or banded. Aperture ovate, acute above, broadly rounded below; outer lip not sinuous; inner lip more or less heavily calloused, not notched at the base. Operculum few-whorled, with basal nucleus. Type *P. Rovirosai* Pils.

This group has the sculpture of *Hemisinus* but differs from that genus in the entire, un-notched basal lip. The columella callus is much like some species of *Pachychilus* but the operculum is very different from that genus. From both of these groups it differs in the short, ovate contour of the shell. The description of the operculum is taken from *Melania brevis* d'Orbigny of Cuba, which I consider congeneric.

The relationship of *Potamanax* to *Hemisinus* in sculpture and operculum is obvious, and has caused me to regard it as a subgenus

rather than a distinct genus; but the total lack of a basal notch or truncation is a character usually considered of generic importance.

P. Rovirosai n. sp. (Pl. III, figs. 8, 9.)

Shell oblong-conic, very solid, whitish, encircled by numerous narrow smooth spiral liræ of a dark brown color, and somewhat alternating in size. Spire conical, apical whorl eroded; whorls 5 remaining, slightly convex, the last whorl large, regularly convex. Aperture a little less than half the length of the shell, ovate, angular above; outer lip regularly acute; inner lip strongly calloused.

Alt. 20, diam. 12 mill. (old specimen.)

Alt. 16½, diam. 9¾ mill. (young specimen.)

Two specimens are before me, collected by Prof. Rovirosa at the mountains of Poana, State of Tabasco. The older individual (Pl. III, fig. 8) is considerably worn; the other is perfect but not wholly adult, and neither contains the operculum. The species is allied, apparently, to the Cuban *Melania brevis* Orb., but is decidedly longer, and the liræ are much stronger.

EXPLANATION OF PLATE III.

Figs. 1, 2, 3, *Chrysodourus (Sipho) Stonei* Pils.

Fig. 4, *Eucalodium compactum* Pils.

Fig. 5, 6, *Pachychilus glaphyrus* var.

Fig. 7, *P. glaphyrus* var. *potumarchus* Pils.

Figs. 8, 9, *Potamanax Rovirosai* Pils.

NOTE ON CYPRÆA GREGORI FORD.

BY EDGAR A. SMITH.

I sincerely trust that Mr. Ford¹ wrongly estimates the critical acumen of modern conchological students. He says that most of them would probably have made *C. Gregori* a species instead of a variety.

There is no doubt that the new French School of Conchologists would agree with Mr. Ford in considering the shell in question specifically distinct from *C. erucata*, but I am glad to say that in England (and I hope in America also) the ideas are not so advanced (?). Although examples of this shell have been in the National collection for more than 50 years, no British author has ever suggested that they belonged to a distinct species.

¹ NAUTILUS, Vol. vi, p. 112, Vol. vii, p. 39.